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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,538	01/11/2001	Hans Heinle	1-22914	9389

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MacMillan, Sobanski & Todd, LLC
Fourth Floor
One Maritime Plaza
720 Water Street
Toledo, OH 43604

EXAMINER	
BURCH, MELODY M	
ART UNIT	PAPER NUMBER
3613	

DATE MAILED: 02/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/758,538	HEINLE ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the phrase "Fig. 1 is to be published with the abstract." should be deleted . Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

- On pg. 5 line 9 from the bottom "elements 31" should be changed to --element 31--;
- On pg. 6 line 6 "cooling circuits 3" should be changed to --cooling circuits 5,6--.

Appropriate correction is required.

Claim Objections

3. Claims 2-11 are objected to because of the following informalities: In line 1 the phrase "A drive" should be changed to --The drive--. Appropriate correction is required.

4. The claim 3 is objected to because it includes reference character "30" which is not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. Claim 1 recites the limitation "the separating wall" in lines 6, 10, and 15. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 1. Claim 1 recites the limitation "the second element" in line 4 from the bottom of the claim. There is insufficient antecedent basis for this limitation in the claim.

Re: claims 1 and 9. The phrase “the or each first/second opening” in lines 10 and 17 of claim 1 and in the last line of claim 9 is unclear. Examiner recommends claiming --the at least one first/second opening--.

Re: claim 1. Claim 1 recites the limitation "said temperature sensors" in line 18. There is insufficient antecedent basis for this limitation in the claim. It is also unclear to the Examiner which temperature sensor(s) Applicant is referring to. The specification describes three different temperature sensors – temperature sensor or bimetal 23 shown in figure 1 which affects the first control element and temperature sensors 40 and 41 connected to magnetic control unit 38 via 39 which affect the second control unit. Examiner recommends making a distinction between the two main types of sensors in the claims to avoid confusion.

Re: claim 1. The phrase "at least one secondary cooling circuit" in lines 12,13, the phrase "viscous fluid" in line 19, and the phrase "second opening" in line 19 are indefinite. It is unclear to the Examiner whether the limitations are the same or different from the "at least one secondary cooling circuit", the "viscous fluid", and the "at least one second opening" claimed earlier in the claim.

Re: claims 2 and 3. Claims 2 and 3 recite the limitation "the separating wall" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 3. The phrase "the said second opening" is unclear. Examiner recommends claiming --said at least one second opening-- to correspond to previously used claim terminology.

Re: claim 5. Claim 5 recites the limitation "the control element" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 7. Claim 7 recites the limitation "the drive shaft" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 7. The phrase "the chamber" is indefinite. It is unclear whether "the chamber" is referring to the "chamber" claimed in claim 7 or the "working chamber" claimed in claim 1.

Re: claim 9. Claim 9 recites the limitation "the actuation member" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 9. The phrase "an element" in line 2 from the bottom of the claim is indefinite. It is unclear to the Examiner whether the "element" intends to refer to the biasing element in claim 9 or the control elements claimed in claim 1. It is also unclear

to the Examiner whether or not the element which expands with rising temperature is intended to be different from the "temperature sensor" claimed in claim 1 since the element expands based on the temperature sensed. Clarification is required.

Re: claim 9. The phrase "a piston and cylinder actuator" is indefinite. It is unclear to the Examiner whether Applicant intends to claim "a piston" and "a cylinder actuator" or the combination of a "piston and cylinder actuator". Clarification is required.

Re: claim 11. Claim 11 recites the limitation "the temperature sensors" in lines 2 and 4. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 11. Claim 11 recites the limitation "said second openings" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 11. Claim 11 recites the limitation "the said predetermined switching temperature" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka. Tanaka shows in the figure on the front of the patent a drive for cooling fans in motor vehicles, the drive comprising a main cooling circuit including a main cooler or fins through which air passes in the area of the bimetal 34 and at least one secondary

cooling circuit or cooling water for the engine and a fluid friction clutch including driving and driven clutch members 25,12 and a reservoir 23 for a viscous fluid the reservoir being limited by a separating member 21,26 and being connectable to a working chamber 22 by at least one first opening 31 in the separating wall, the working chamber extending into a region between the clutch members in which torque is transmitted from the driving clutch member to the driven clutch member by the viscous fluid, and wherein the filling of the chamber with viscous fluid is controlled by a first control element 32 opening and closing the or each first opening in the separating wall depending on the temperature of the cooling air passing through the main cooler characterized in that the drive further comprises at least one secondary cooling circuit or cooling water for the engine including a temperature sensor 78, the temperature sensor being operatively connected to a control unit 72,large diameter portion of 81,80 arranged to control a second control element 65 wherein the separating wall comprises at least one second opening 61, the second control element being arranged in the working chamber, the control unit moving the second element to open and close the or each second opening in accordance with the temperature sensed by one of the temperature sensors to control the filling of the chamber with viscous fluid, and wherein control of second opening is not influenced by the first control element.

Re: claim 5. Tanaka shows the control element being connected to the control unit by an actuation member 84,small diameter portion of 81.

Re: claim 6. Tanaka shows the actuation member extending through a concentric bore of a drive shaft 73 and the control unit engaging the actuation member extending from the drive shaft.

Re: claims 7 and 8. Tanaka shows the control unit particularly 72 being rotatably arranged via roller bearing 76 in a chamber or interior area of a drum 74,75 driving the drive shaft 73.

Re: claim 9. Tanaka shows the control unit comprising a piston and cylinder actuator 79,80 the piston 80 being connected to the actuation member and wherein the piston comprises first and second surfaces, the first surface being subjected to a force of a biasing element 86 and the second surface being subjected to a force generated by an element 78 which expands with rising temperatures to open the or each opening 61.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6220416 to Katoh et al.

Re: claims 1-4, 10, and 11. Katoh et al. shows in the figure on the front of the patent a drive for cooling fans in motor vehicles, the drive comprising a main cooling circuit including a main cooler in the area of the bimetal 19 and at least one secondary

cooling circuit or cooling water for the engine and a fluid friction clutch including driving and driven clutch members 15,21 and a reservoir 11 for a viscous fluid the reservoir being limited by a separating member 13 and being connectable to a working chamber 12 by at least one first opening 14 in the separating wall, the working chamber extending into a region between the clutch members in which torque is transmitted from the driving clutch member to the driven clutch member by the viscous fluid, and wherein the filling of the chamber with viscous fluid is controlled by a first control element 26a opening and closing the or each first opening in the separating wall depending on the temperature (as a function of the pressure) of the cooling air passing through the main cooler characterized in that the drive further comprises at least one secondary cooling circuit or cooling water for the engine including a sensor, the sensor being operatively connected to a control unit 30 included in an electronic circuit 9a arranged to control a second control element 27,32 wherein the separating wall comprises at least one second opening 23, the second control element being arranged in the working chamber, the control unit moving the second element to open and close the or each second opening in accordance with the temperature (as a function of the pressure) sensed by one of the sensors to control the filling of the chamber with viscous fluid, and wherein control of second opening is not influenced by the first control element, but does not disclose that the sensor is a temperature sensor.

Katoh et al. teach in col. 8 lines 50-60 the use of a pressure sensor 8a to sense a rise in pressure of the coolant and to activate or energize the control unit. Katoh et al. also teach the proportional relationship between pressure and temperature particularly

in col. 8 lines 51-55. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the sensor of Katoh et al. to have included a temperature sensor instead of a pressure sensor, in view of the teachings of Katoh et al., in order to provide a means to sense a change in temperature that would result in the excitation of the control unit once a predetermined level is reached.

Re: claim 5. Katoh et al. show the control element 32 being connected to the control unit 30 by an actuation member 29.

Re: claim 6. Katoh et al. show the limitation wherein the actuation member extends through a concentric bore 37 of a drive shaft 2 and the control unit engages the actuation member extending from the drive shaft.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 6021747 to Gee et al., 4351425 to Bopp, 4727969 to Hayashi et al., 4467901 to Hattori et al. teach similar fan cooling devices with more than one control element.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 2/14/02
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February 14, 2002

Pamela J. Rodriguez
Primary Examiner
Art Unit 3613

2/15/02